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Richard N. Smith,

Deputy Director, Fish and Wildlife Service.

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50 CFR Part 17

RIN 1018-AB85

Endangered and Threatened Wildlife and Plants; Establishment of an Experimental Nonessential Population of Whooping Cranes in Florida

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines that it will reintroduce whooping cranes (*Grus americana*) in central Florida in the Kissimmee Prairie area. The reintroduction will implement a primary recovery action for a federally listed endangered species, obtain data for further assessing the suitability of Kissimmee Prairie of south central Florida as whooping crane habitat, and evaluate the merit of releasing captive-reared whooping cranes, conditioned for wild release, as a technique for establishing a self-sustaining, nonmigratory population.

The Service determines that this reintroduced population is designated a nonessential experimental population according to section 10(j) of the Endangered Species Act of 1973 (ESA), as amended. An experimental population is treated as a threatened species for the purposes of section 4(d) and 9 of the ESA, which prohibit certain activities involving listed species. Accordingly, a special rule for specifying circumstances under which "taking" of introduced whooping cranes will be allowed is being promulgated in conjunction with the nonessential, experimental population rule. No conflicts are envisioned between the whooping crane's reintroduction and any existing or anticipated Federal agency actions.

EFFECTIVE DATE: January 22, 1993.

ADDRESSES: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Jacksonville Field Office, U.S. Fish and Wildlife Service, 3100 University Boulevard, South, Suite 120, Jacksonville, Florida 32216.

FOR FURTHER INFORMATION CONTACT: David J. Wesley at the above address (telephone 904/232-2580).

SUPPLEMENTARY INFORMATION

Effective Date

For this rule the Service waives for good cause the usual 30-day delay between publication of a final rule and its effective date, as provided by the Administrative Procedure Act (5 U.S.C. 553(d)(3)). The prompt release of the currently available captive-produced birds is desirable because (1) facilities being used at the northern propagation sites were not designed for holding these birds over winter and (2) young birds become less adaptable to the wild if they are held in captivity too long. Therefore, good cause exists for this rule to be effective immediately upon publication.

Background

1. Legislative

The ESA Amendments of 1982, Public Law No. 97-304, created a new section 10(j), providing for the designation of specific introduced populations of listed species as "experimental populations." Under previous authorities in the ESA, the Service was permitted to reintroduce populations into unoccupied portions of the historic range of a listed species when it would foster the conservation and recovery of the species. Local opposition to reintroduction efforts, however, stemming from concerns about the restrictions and prohibitions on private and Federal activities contained in sections 7 and 9 of the ESA, severely handicapped the effectiveness of this as a management tool.

Under section 10(j), past and future reintroduced populations established outside the current range, but within the species' historic range, may now be designated, at the discretion of the Service, as "experimental." Such designations will increase the Service's flexibility to manage these reintroduced populations because such experimental populations may be treated as threatened species. The Service has more discretion in devising management programs for threatened species than for endangered species, especially on matters regarding incidental or regulated takings. Moreover, experimental populations found to be "nonessential" to the continued existence of the species in question are to be treated as if they were only proposed for listing for purposes of section 7 of the ESA, except as noted below.

A "nonessential" experimental population is not subject to the formal consultation requirement of section 7(a)(2) of the ESA, except that the full

protection of section 7 applies to individuals of the experimental population found on a National Wildlife Refuge or National Park. Section 7(a)(1) of the ESA, requiring Federal agencies to carry out programs to conserve listed species, applies to all experimental populations. Individuals to comprise a designated experimental population can be removed from an existing source or donor population only after determining that such removal is not likely to jeopardize the continued existence of the species and issuance of a permit in accordance with 50 CFR 17.22.

2. Biological

The species included in this rule is the whooping crane (*Grus americana*), listed as an endangered species on March 11, 1967 (32 FR 4001). The whooping crane is classified in the family Gruidae, Order Gruiformes. It is the tallest bird in North America; males approach 1.5 m. In captivity adult males average 7.3 kg and females 6.4 kg. Adult plumage is snowy white except for black primaries, black or grayish alulae, sparse black bristly feather on the carmine crown and malar region, and a dark gray-black wedge-shaped patch on the nape. The bill is dark olive-gray which becomes lighter during the breeding season. The iris of the eye is yellow; legs and feet are gray-black.

Adults are potentially long-lived. Current estimates suggest a maximum longevity in the wild of 22 to 24 years (Binkley and Miller 1980). Captive individuals are known to have survived 27 to 40 years (McNulty 1966, Moody 1931). Mating is characterized by monogamous life-long pair bonds. Individuals remate following death of their mate. Fertile eggs are occasionally produced at age 3 years but more typically at age 4 (pers. comm., Ernie Kuyt 1991). Experienced pairs may not breed every year, especially when habitat conditions are poor. Whooping cranes ordinarily lay two eggs. They will renest if their first clutch is destroyed or lost before mid-incubation (Erickson and Derrickson 1981, Kuyt 1981).

Although two eggs are laid, whooping cranes infrequently fledge two chicks. Only about one of every four hatched chicks survives to reach the wintering grounds (U.S. Fish and Wildlife Service 1986).

The whooping crane first appeared in fossil records from the early Pleistocene (Allen 1952) and probably was most abundant during that two-million-year epoch. They once occurred from the Arctic Sea to the high plateau of central Mexico, and from Utah east to New Jersey, South Carolina, and Florida

(Allen 1952, Nesbitt 1982). In the 19th century, the principal breeding range extended from central Illinois northwest through northern Iowa, western Minnesota, northeastern North Dakota, southern Manitoba, and Saskatchewan to the vicinity of Edmonton, Alberta. A nonmigratory breeding population still existed in southwestern Louisiana in the early 1940's (Allen 1952, Craft 1991).

Through the use of two independent techniques of population estimation, Banks (1978) derived estimates of 500 to 700 whooping cranes in 1870. By 1941, the migratory population contained only 16 individuals. The whooping crane population decline in the 19th and early 20th century was a consequence of hunting and specimen collection, human disturbance, and conversion of the primary nesting habitat to hay, pastureland, and grain production.

Allen (1952) described several historical migration routes. One of the most important led from the principal nesting grounds in Iowa, Illinois, Minnesota, North Dakota, and Manitoba to coastal Louisiana. Another went from Texas and the Rio Grande Delta region of Mexico northward to nesting grounds in North Dakota and the Canadian Provinces. A route through west Texas into Mexico probably followed the route still used by sandhill cranes. These whooping cranes wintered in the interior tablelands of western Texas and the high plateau of central Mexico.

Another migration route crossed the Appalachians to the Atlantic Coast. These birds apparently nested in the Hudson Bay area of Canada. Coastal areas of New Jersey, South Carolina, and river deltas farther south were the wintering grounds. The latest specimen records or sighting reports for some eastern locations are Alabama, 1899; Arkansas, 1889; Florida, 1927 or 1928; Georgia, 1885; Illinois, 1891; Indiana, 1881; Kentucky, 1886; Manitoba, 1948; Michigan, 1882; Minnesota, 1917; Mississippi, 1902; Missouri, 1884; New Jersey, 1857; Ohio, 1902; Ontario, 1895; South Carolina, 1850; and Wisconsin, 1878; (Allen 1952, Burleigh 1944, Hallman 1965, Sprunt and Chamberlain 1949).

Atlantic coast locations used by whooping cranes include the Cape May area and Beesley's Point at Great Egg Bay in New Jersey; the Waccamaw River in South Carolina; the deltas of the Savannah and Altamaha rivers, and St. Simon's Island in Georgia; and the St. Augustine area of Florida. Gulf coast locations include Mobile Bay, Alabama; Bay St. Louis in Mississippi; and numerous records from southwestern Louisiana, where the last bird was captured in 1949. Coastal Louisiana

contained both a nonmigratory flock and wintering migrants (Allen 1952).

"There is evidence to suggest that whooping cranes occurred in Florida, perhaps well into the 20th century" (Nesbitt 1982). Nesbitt described various sighting reports including one by O. E. Baynard, a respected field naturalist, who stated that the last flock of whooping cranes (14 birds) he saw in Florida was in 1911 near Micanopy, southern Alachua County. Two whooping cranes were reported east of the Kissimmee River on January 1936 and a whooping crane was shot (and photographed) north of St. Augustine, St. Johns County, in 1927 or 1928 (Nesbitt 1982).

Records from more interior areas of the Southeast include the Montgomery, Alabama, area; Crockett's Bluff on the White River, and near Corning in Arkansas; in Missouri in Jackson County near Kansas City, near Corning, in Lawrence County southwest of Springfield, in Audrain County, and near St. Louis; and in Kentucky near Louisville and Hickman. It is unknown whether these records represent wintering locations, remnants of a nonmigratory population, or wandering birds.

Whooping cranes currently exist in two wild populations and at three captive locations. The one self-sustaining natural wild population nests in the Northwest Territories and adjacent areas of Alberta, Canada, primarily within the boundaries of Wood Buffalo National Park. These birds winter along the central Texas Gulf of Mexico coast at Aransas National Wildlife Refuge and adjacent areas. Forty pairs nested in 1992 and the October 1992 population is estimated at 140. The flock recovered from a population low of 16 birds in 1941. This population is hereafter referred to as the Aransas/Wood Buffalo National Park population (AWP).

The second wild flock consists of 12 individuals reared by wild sandhill cranes (termed cross-fostered because they are foster-reared by another species) in an effort to establish a migratory, self-sustaining population in the Rocky Mountains. The project began in 1975 with the transfer of wild whooping crane eggs from nests in Wood Buffalo National Park to the nests of greater sandhill cranes (*Grus canadensis tabida*) at Grays Lake National Wildlife Refuge in southeastern Idaho. The sandhill cranes became the foster parents to the whooping crane chicks and taught them the migration route which the parents traditionally followed. These birds spend the summer in Idaho, western

Wyoming, and southwestern Montana and winter in New Mexico and hereafter are referred to as the Rocky Mountain population (RMP). From 1975 through 1988, 289 eggs were transferred (including 73 eggs from the captive flock at the Patuxent Wildlife Research Center), 210 hatched, and 85 chicks fledged. The RMP population peaked at 33 birds in 1985 and has declined since then to 10 birds.

Dr. Edward O. Garton, biometrician at the University of Idaho, working with Dr. Rod Drewien the leader of the cross-fostering project (Garton et al. 1989), modelled the cross-fostered population to predict when it might become self-sustaining. In the model they assumed: (1) The cross-fostered females would be breeding at the same rate as the females in Canada; and (2) survival of birds in their first year would be similar to that of first year birds in Canada (Garton et al. 1989). Despite these optimistic and unrealized assumptions, with the future transfer of 30 eggs per year, the population would only reach 6 breeding pairs after 50 years. "It is obvious from all scenarios modelled that egg transplants of less than 30 eggs per year will not suffice to establish a self-sustaining population in a reasonable period of time. Natural breeding will be essential to establish a self-sustaining population" (Garton et al. 1989).

By 1989, biologists were beginning to suspect the absence of pairing might be due in part to improper sexual imprinting, particularly by the female whooping cranes. Sexual imprinting of a foster-reared species on the foster-parent species had already been confirmed in foster-reared raptors, waterfowl, gulls, finches, and gallinaceous birds (Bird et al. 1985, Immelmann 1972). One test of the imprinting problem occurred at International Crane Foundation where sandhill cranes were foster-reared by red-crowned cranes (sample n=1), white-naped cranes (n=2), and Siberian cranes (n=1). When given a choice the cross-fostered sandhill cranes socialized more with the foster species than with their own species. The two foster-reared females showed a stronger preference for the foster species than did the two foster-reared males (Mahan and Simmers 1992). By fall of 1992, cross-fostered adult female whooping cranes of ages 4 through 12 years passed through a nesting season on 34 occasions without pairing. Whooping cranes at Wood Buffalo National Park begin egg production at an average age of 4 years (E. Kuyt, pers. comm., 1991). In the summer of 1992, a male whooping crane paired with a female sandhill crane and produced a chick.

This provided further evidence that the cross-fostering was leading to improper sexual imprinting.

The Idaho cross-fostering project is being phased out because these birds have never paired (perhaps due to improper sexual imprinting) and the mortality rate in this population has become too high to justify continuing egg transfer. Fieldwork in the project ended in summer 1991, and project personnel are concentrating on finishing their final contract report. The Service and Canadian Wildlife Service are currently evaluating a proposal for future use and experimentation with these RMP birds.

The largest captive population of 38 birds greater than 1 year of age, including 8 productive pairs, is located at the Patuxent Wildlife Research Center (Patuxent) near Laurel, Maryland. Another 7 pairs at Patuxent should begin producing eggs in 1 to 5 years. This site is directly administered by the Service. A second captive flock containing 27 birds greater than 1 year of age is maintained at Service cost at International Crane Foundation (ICF), a private foundation, near Baraboo, Wisconsin. The Wisconsin flock contains three experienced breeding pairs and another seven pairs which should enter production over the next one to five years. A subadult pair is maintained at the San Antonio Zoo in San Antonio, Texas. These birds are maintained at the expense of the zoo under supervision of the Service. An additional captive site has been constructed in Calgary, Alberta, Canada at the Calgary Zoo. This flock is being developed under the oversight of the Canadian Wildlife Service. The Calgary Zoo staff received training at ICF and Patuxent in 1991 and 1992. They will receive two pairs of whooping cranes in November/December of 1992, additional birds from the U.S. captive flocks in 1993, and eggs from the wild flock in 1994. The goal for this flock is 10 breeding pairs.

Whooping cranes adhere to ancestral breeding areas, migratory routes, and wintering grounds, leaving little possibility of pioneering into new regions. The only self-sustaining wild breeding population can be expected to continue utilizing its current nesting location with little likelihood of expansion except on a local geographic scale. This population remains vulnerable to destruction through a natural catastrophe (hurricane), a red tide outbreak, or contaminant spill, due primarily to its limited wintering distribution along the intracoastal waterway of the Texas coast. The Gulf Intracoastal Water Way (GIWW)

experiences some of the heaviest barge traffic of any waterway in the world. Much of the shipping tonnage is petrochemical products. An accidental spill could destroy whooping cranes and/or their food resources. With the only breeding wild population so vulnerable, it is urgent that additional wild self-sustaining populations be established as soon as practical.

3. Recovery Efforts

The first recovery plan developed by the U.S. Whooping Crane Recovery Team (Team) was approved January 23, 1980. It was revised December 23, 1986. The short-term goal is to downlist the whooping crane from the endangered category to the threatened category. The criteria for attaining this downlisting goal is achieving a population level of 40 pairs in the AWP and establishing two additional, separate and self-sustaining, populations consisting of 25 nesting pairs each. The recovery plan recommends these goals should be attained for 10 consecutive years before the species is reclassified to threatened. These new populations may be migratory or nonmigratory. The recovery plan is being revised to reflect the recent progress towards creating the captive flock in Calgary, the Florida reintroduction, and plans for the RMP birds.

In 1985, the Director-General of the Canadian Wildlife Service and the Director of the U.S. Fish and Wildlife Service signed a memorandum of understanding (MOU) entitled "Conservation of the Whooping Crane Related to Coordinated Management Activities." The MOU was revised and signed in 1990. It discusses disposition of birds and eggs, postmortem analysis, population restoration and objectives, new population sites, international management, recovery plans, and consultation and coordination. All captive whooping cranes and their future progeny are jointly owned by the U.S. Fish and Wildlife Service and the Canadian Wildlife Service. Consequently, both nations are involved in recovery decisions.

4. Reintroduction Methodology and Site Selection Process

In early 1984, pursuant to the recovery plan goals and the recommendation of the recovery team, potential whooping crane release areas were selected in the eastern United States. At that time the prognosis was favorable for successfully establishing a western population by use of the cross-fostering technique. Consequently, key considerations in selecting areas to evaluate for the eastern release were (1)

large areas of potentially suitable wetland habitat; (2) a healthy sandhill crane population sufficient to support recovery using the cross-fostering technique; (3) public and State agency support for such a recovery effort in the release locale; (4) low-to-moderate levels of avian disease pathogens, environmental contaminants, and power lines; and (5) the potential of the habitats to simultaneously support whooping cranes and sandhill cranes.

The areas selected were the upper peninsula of Michigan and adjacent areas of Ontario, the Okefenokee Swamp in southern Georgia, and three sites in Florida. The Michigan site would potentially support a migratory population. The Georgia and three Florida sites would each support a nonmigratory population. The Michigan/Ontario wetlands are occupied by greater sandhill cranes that winter in Florida and the Okefenokee Swamp of Georgia. The wetlands in Georgia and Florida are occupied by the nonmigratory Florida sandhill crane (*G. c. pratensis*) and in winter by greater sandhill cranes which primarily nest in southern Ontario, Michigan, eastern Minnesota, and Wisconsin. Three-year studies were initiated at each site in October 1984 to evaluate their respective suitabilities.

Results of the studies were presented in written final reports to the U.S. Whooping Crane Recovery Team in fall 1987 (Bennett and Bennett 1987, Bishop 1988, McMillan 1987, Nesbitt 1988) and in verbal reports in February 1988. By 1988, the Team recognized that cross-fostering was not working to establish a migratory population in the West. The possibility of inappropriate sexual imprinting associated with cross-fostering, and the lack of a proven technique for establishing a migratory flock, influenced the team to favor establishing a nonmigratory flock. A nonmigratory population has several features which make it easier to achieve success: (1) Released birds do not face the hazards of migration (over one half of the losses of fledged, cross-fostered birds occurs during migration); and (2) released birds inhabit a more geographically limited area year-round than do migratory cranes, which increases the opportunity for birds to find a compatible mate.

Studies of whooping cranes (Drewien and Bizeau 1977) and greater sandhill cranes (Nesbitt 1988) have shown that migration in these cranes is learned rather than innate behavior. Captive-reared whooping cranes released in Florida are expected to develop a sedentary population.

In summer 1988 the Team selected Kissimmee Prairie as the area most suitable for the next experiment to establish a self-sustaining population. A suitable technique for release of whooping cranes in Kissimmee Prairie is the gentle release of captive-reared birds conditioned for wild release. Cranes are conditioned for wild release by being reared in isolation from humans, by use of conspecific role models, puppets, and exercised by animal care personnel in bird costumes to avoid imprinting on humans. This technique has been successful in supplementing the population of endangered nonmigratory Mississippi sandhill cranes (*G. c. pulla*) (Zwank and Wilson 1987, Ellis et al. 1992). The term gentle release refers to retaining captive-reared birds in open-topped enclosures (conditioning pens) at the release site as they gradually adjust to their new surroundings. The enclosures contain some natural foods and water. Commercial foods are provided *ad libitum*. While in the conditioning pens, flight is restricted by the use of plastic brailes which preclude full wing extension. After several weeks the brailes are removed and the birds are allowed to fly from the pen. While the birds acclimate to their new freedom, commercial foods are continued in the pens for their use as needed.

The Service will gentle release 9 to 12 juvenile whooping cranes on Kissimmee Prairie, in early 1993. These birds have been captive-reared at Patuxent Wildlife Research Center in Laurel, Maryland, and the International Crane Foundation in Baraboo, Wisconsin. They were conditioned for wild release to increase post-release survival and their ability to adjust to wild foods. Birds will be double radio tagged and monitored for 2 years after release to discern movements, habitat use, other behavior, and survival. If results of this initial release are favorable, the releases will be resumed later in 1994 with the goal of releasing 20 birds annually for about 10 years.

The reintroduction will: (1) Implement a primary recovery action for a federally listed endangered species; (2) obtain data for further assessing the suitability of Kissimmee Prairie of south central Florida as whooping crane habitat; and (3) evaluate the suitability of releasing captive-reared whooping cranes, conditioned for wild release, as a technique for establishing a self-sustaining, nonmigratory population. Information on survival of released birds, movements, behavior, causes of losses, reproductive success, and other data will be gathered throughout the

project. Project progress will be evaluated annually.

The likelihood of the releases resulting in a self-sustaining population is believed to be good (60 to 80 percent). Whooping cranes historically occurred in Florida and the release area habitat is similar to that which supported nesting whooping cranes in a nonmigratory population in Louisiana into the 1940's. The minimum goal for numbers of cranes to be released annually is based on the research of Griffith et al. (1989). As captive production increases, annual release numbers will be increased and, for a long-lived species like the whooping crane, continuing releases for a number of years increases the likelihood of reaching a population level which can sustain stochastic events.

The rearing and release techniques have proven successful in building the wild population of the endangered Mississippi sandhill cranes (*G. c. pulla*). If breeding and mortality rates at Kissimmee Prairie mirror those observed in the AWP flock, the suggested rate of release is adequate to assure establishment, with a minimal probability of failure to establish a population (Mirande et al. 1992). If breeding is delayed until 6 or 7 years of age, population growth would be slower, the population would be less stable, and there would be some probability of failure of the introduction. If a non-migratory flock in Florida experiences birth and death rates more similar to the sandhill cranes in Florida, establishment is still likely (Mirande et al. 1992).

Status of Reintroduced Population

The whooping crane population of Florida is designated a nonessential experimental population according to the provisions of section 10(j) of the ESA.

Being authorized for release as an "experimental population" means the reintroduced population will be treated as a threatened species rather than an endangered species. This designation enables the Service to develop special regulations for population management that are less restrictive than the mandatory prohibitions. Such special regulations can provide management flexibility when needed to make a reintroduction compatible with current or planned human activities in the release area. Per section 4(d) of the ESA, these special regulations must be "necessary and advisable" to provide for the conservation of the whooping crane.

"Nonessential" experimental populations are not essential to the

continued existence of the species. For purposes of section 7 of ESA, they are treated as though they were only proposed for listing, except when occurring in an area of the National Wildlife Refuge System or the National Park System. This experimental population qualifies as being nonessential to the continued existence of the whooping crane because:

1. With approximately 90 whooping cranes in captivity at four discrete locations and about 150 whooping cranes in the wild it is evident the Florida population will not be essential to the continued existence of the species. If the definition of nonessential is further narrowed to consider only the existence of the species in the wild, the population is still nonessential. The two extant, discrete wild populations contain about 10 and 140 individuals. A catastrophic event is unlikely to simultaneously strike both populations nor is it likely to destroy all individuals in the larger population. With the existing captive flocks the Service also has the capability to introduce additional birds (by captive-produced eggs) back into the wild. Therefore, whooping cranes are not in imminent danger of becoming extinct in the wild nor will designation of the Florida population as nonessential be likely to " * * * appreciably reduce the likelihood of survival of that species in the wild."

2. For the time being, the AWP and the captive populations will be the primary species population. This species has been protected against the threat of extinction from a single catastrophic event by gradual recovery of the AWP and by increase and management of the cranes at three captive sites. Loss of the experimental population would not jeopardize species' survival.

3. For the time being, the primary repository of genetic diversity for the species will be the approximately 200 wild and captive whooping cranes in the locations mentioned in (1) above. The birds selected for reintroduction will be as genetically redundant as possible with the captive population, hence any loss of reintroduced animals in this experiment will not significantly impact the goal of preserving maximum genetic diversity in the species.

4. Any birds lost during the reintroduction attempt can be replaced through captive breeding or by transfer of eggs from the AWP. Eggs have been transferred to captivity from the AWP population for recovery purposes (building the captive flocks and the experimental wild cross-fostered population) since 1967. The AWP has

continued to grow during this interval despite the egg transfers. Since 1985, biologists involved in the egg transfer have endeavored to ensure that one viable egg remains in each nest. Such egg switching within the Park provides infertile pairs the opportunity to raise a chick. These egg switches have increased flock growth and the potential for species recovery. In 1992 at least 40 wild pairs nested in Canada, an increase from 33 in 1991. Egg and chick production doubled in the captive flocks in 1992. Within the captive population there also are a number of young pairs (16) expected to enter the breeding component of the population over the next 5 years. Such wild and captive flock increases illustrate the potential of the species to replace individual birds released in the reintroduction effort in Florida.

The reintroduction will further the conservation of the species. There are uncertainties in the reintroduction experiment, but a decision not to attempt to establish a second wild self-sustaining population would be more hazardous to survival of the species in the wild. The present tenuous status of the AWP, which could be decimated by catastrophic events such as a Gulf coast hurricane or a contaminants spill on the wintering grounds, necessitate management efforts to establish an additional wild population. The Service believes three self-sustaining wild populations should be in existence before the whooping crane can be downlisted to threatened status. Such a downlisting requirement is identified in the U.S. Whooping Crane Recovery plan and in the newly drafted Canadian "National Recovery Plan For The Whooping Crane." The nonmigratory Florida population would potentially be the second such population. The site for the third population will be selected at a future date and, in part, will depend on the success of the Florida experiment. If the reintroduction effort at Kissimmee Prairie is successful, the conservation of the species will have been furthered considerably by not only establishing a second self-sustaining population, but by confirming that captive reared birds can be used to establish a nonmigratory wild population. A successful reintroduction into Florida will set the stage for the next major recovery action, establishing a second self-sustaining migratory population. It will provide the public support for the additional recovery efforts necessary for downlisting the species from Endangered to Threatened.

The area currently supports one of the largest and most consistently productive populations of Florida sandhill cranes

in the State. The Florida sandhill crane is currently listed as threatened by the State (Florida Game and Fresh Water Fish Commission 1991). Additionally, the area supports populations of eastern indigo snake (*Drymarchon corais couperi*), bald eagle (*Haliaeetus leucocephalus*), snail kite (*Rostrhamus sociabilis*), red-cockaded woodpecker (*Picoides borealis*), American alligator (*Alligator mississippiensis*), Florida panther (*Felis concolor coryi*), and Florida grasshopper sparrow (*Ammodramus savannarum floridanus*), all of which are federally listed as endangered or threatened species. The whooping crane was designated as a Species Of Special Concern in Florida by action of the Florida Game and Fresh Water Fish Commission in September 1992.

Location Of Reintroduced Population

The Kissimmee Prairie consists of approximately 2,000 square kilometers of flat, open palmetto prairie interspersed with shallow wetlands and lakes. On private ranch lands much of the prairie has been converted to improved pasture. Land ownership includes eight large private ranches totaling 82,200 hectares (ha) and seven public ownerships totaling 104,953 ha. Large private holdings range from 2,700 ha to 42,500 ha. Public lands range from 2,955 ha to 43,300 ha and include the Three Lakes Wildlife Management Area (WMA) (22,400 ha), National Audubon Society Kissimmee Prairie Sanctuary (2,955 ha), Kicco WMA (3,100 ha), Bull Creek WMA (8,425 ha), Upper St. John's River WMA (24,800 ha), and Avon Park Bombing Range (43,300 ha).

Seventy percent of the primary release site, Three Lakes WMA, is suitable crane habitat. Twenty-seven percent of this habitat is shallow wetlands characterized by pickerel weed (*Pontederia* spp.), nuphar (*Nuphar luteum*), and maiden cane (*Panicum hemitomon*). Fifty-five percent of the area consists of dry prairie and flatwoods with saw palmetto (*Serenoa repens*), various grasses, and scattered slash pine (*Pinus elliottii*) the characteristic vegetation. Lakes Kissimmee, Marion, and Jackson bound the Three Lakes WMA and each has an extensive wetland edge. Scattered strands of cypress (*Taxodium* spp.) are associated with these and several smaller lakes in the area.

The principal private land use is livestock grazing and sod farming. Habitat is maintained in a subclimax state through controlled burning, primarily in winter and early spring. Areas are burned on a 2 to 3 year rotation. The public lands are managed

for wildlife values, water conservation, and to maintain natural habitat conditions. Compared to other release areas in Florida, the Kissimmee Prairie has experienced the least pressures associated with human population growth over the past 30 years due to its distance from major population centers and the presence of large private and public land holdings.

Management

1. Monitoring

Whooping cranes will be intensively monitored by the Florida Game and Fresh Water Fish Commission (Commission) prior to and after release. The birds will be observed daily while they are in the conditioning pen and on-site security will be provided by a resident caretaker. During the pre-release conditioning period, at least nine 30-minute time budgets will be collected on each individual (three from dawn to 1000 hours, three from 1000 to 1500 hours, and three from 1600 hours to dusk). Facilities for captive maintenance of the birds are modeled after facilities at the Service's Patuxent Wildlife Research Center and the International Crane Foundation. They conform to standards set forth in the Animal Welfare Act and Florida Wildlife Code (Title 39.6 F.A.C.). To further ensure the well-being of birds in captivity and their suitability for release to the wild, facilities will incorporate features of their natural environment (e.g., feeding, loafing, and roosting habitat) to the extent possible. The conditioning pens are similar to those being used successfully to release Mississippi sandhill cranes.

To ensure contact with the released birds, each crane will be equipped with two legband-mounted radio telemetry transmitters. Subsequent to gentle-release, the birds will be monitored daily to assess movements and dispersal from the area of the release pen. The cranes will be checked daily for mortality or indications of disease (listlessness, social exclusion, flightlessness, or obvious weakness, etc.). Social behavior (e.g., pair formation, dominance, cohort loyalty) will also be evaluated.

A voucher blood serum sample will be taken for each bird before its shipment to Florida. A second sample will be taken just prior to release. Any time a bird is handled after release a blood sample will be taken to monitor disease exposure, physiological condition, etc. One year after release all surviving birds will be captured and an evaluation made of their exposure to disease/parasites through blood, fecal,

and other sampling regimens. Monitoring will continue for a second year and exposure to disease/parasites reevaluated at the end of the second year. Healthy birds still in the wild at the end of the second year will remain in the area. Additional releases will begin late in 1994 or 1995, if conditions appear suitable for successful establishment. The releases would then be continued annually with the goal of releasing 20 birds per year for about 10 years and annually evaluating the progress of the recovery effort.

2. Disease/Parasite Considerations

Both sandhill and whooping cranes are known to be vulnerable, in part or all of their natural range, to avian herpes (inclusion body disease), avian cholera, acute and chronic mycotoxicosis, Eastern equine encephalitis (EEE), and avian tuberculosis. Additionally, *Eimeria* spp., *Haemoproteus* spp., *Leucocytozoon* spp., avian pox, lead poisoning, and *Hexamita* sp. have been identified as debilitating or lethal factors in wild or pre-release, captive populations.

A group of crane veterinarians and disease specialists developed protocols for pre-release and pre-transfer health screening for birds selected for release to prevent introduction of diseases and parasites into Florida. Exposure to disease and parasites will be evaluated through blood, serum, and fecal analysis of any individual crane handled post release or at the regular monitoring intervals. Remedial action will be taken to return to good health any sick individuals taken into captivity. Sick birds will be held in specially built facilities and their health and treatment monitored. Special attention will be given to EEE because an outbreak at Patuxent Wildlife Research Center (Center) in 1984 killed 7 of 39 whooping cranes present at the Center. After the outbreak a vaccine was developed for use on captive cranes. In 1989, EEE was documented in sentinel bobwhite quail and sandhill cranes at the Center. No whooping cranes became ill and it appears the vaccine may provide protection. EEE is present in Florida so the birds will be vaccinated in the initial release. Other strains of encephalitis (St. Louis, Everglades) also occur in Florida. The vaccine for EEE may also provide protection against these arboviruses.

When appropriate, chickens or other avian species may be used to assess the prevalence of certain disease factors. This could mean using sentinel species for ascertaining exposure probability to encephalitis or evaluating a species with

similar food habits for susceptibility to chronic mycotoxicosis.

3. Genetic Considerations

The ultimate genetic goal of the reintroduction program is to establish wild reintroduced populations that embody the maximum level of genetic diversity available from the captive population. Early reintroductions will likely consist of a biased sample of the genetic diversity of the captive gene pool. This bias will be corrected at a later date by selecting and reestablishing breeding whooping cranes that theoretically compensate for any genetic biases in earlier releases.

4. Mortality

Although efforts will be made to reduce mortality, some will inevitably occur as captive-reared birds adapt to the wild. Collision with power lines and fences are known hazards to wild whooping cranes. There are no major power lines crossing the release site. Three- and four-strand barbed wire fencing is used in conjunction with cattle ranching in the Kissimmee area and presents some collision hazard. If whooping cranes begin regular use of areas traversed by power lines or fences, the Service and Commission, in consultation with the corporation or individual owning the line or fence, will consider placing markers on the obstacles to reduce the probability of collisions.

Bobcats are known predators of adult sandhill cranes and, along with Florida panther and alligators, would be potential predators of adult whooping cranes. Bald eagles, gray fox, bobcats, alligators, panthers, owls, and raccoons are potential predators of young cranes. Natural mortality from predators, fluctuating food availability, disease, wild feeding inexperience, etc., will be reduced through predator management, vaccination, soft release, supplemental feeding for a post-release period, and pre-release conditioning. Human-caused mortality will be reduced by information and education efforts directed at landowners and landusers, and review and management of human activities in the area.

A low level of incidental take as a result of otherwise lawful human activities occurring in the area may occur, such as whooping cranes being flushed into fences by land use activities of farming, grazing, recreation, etc., collisions with vehicles, depredation and harassment from cats and dogs and other take from land use activities.

Injuries or mortalities will be required to be reported immediately to the

Service. If it is determined that a whooping crane injury or mortality was unavoidable, unintentional, and did not result from negligent conduct lacking reasonable due care, then the Service will not seek prosecution. Knowing or willful take will be referred to the appropriate authorities for possible prosecution.

5. Special Handling

Under the special regulation, promulgated under authority of section 4(d) of the Act, that will accompany the experimental population designation, Service and Commission employees and agents would be authorized to relocate whooping cranes to avoid conflict with human activities; relocate whooping cranes that have moved outside the appropriate release area when removal is necessary or requested; relocate whooping cranes within the experimental population area to improve survival and recovery prospects; and aid animals which are sick, injured or otherwise in need of special care. If a whooping crane is determined to be unfit to remain in the wild, it would be returned to captivity. Service and Commission employees would be authorized to salvage or dispose of dead whooping cranes.

6. Coordination With Landowners and Land Management Agencies

The action is being coordinated with potentially affected State and Federal agencies, private landowners, and the general public. As previously noted, the Kissimmee Prairie includes 82,200 ha in private ownership and 104,953 ha in public lands. The primary release area is 22,400 ha of public land. Private land managers were contacted and concur with or do not oppose the action provided it does not interfere with existing lifestyles and current and potential income. The Commission manages wildlife management areas in the Prairie, has been actively involved as a cooperator in pre-release studies, and has actively endorsed the project. A Memorandum of Understanding on cooperative recovery actions to be undertaken in Florida has been signed by Regions 2 and 4 of the Service and the Commission. The Commission has stated whooping cranes will receive priority management decisions on Three Lakes WMA. Service and Commission personnel have developed a management plan which describes management activities after the cranes are released. The Director General of the Canadian Wildlife Service, a partner with the U.S. Fish and Wildlife Service as noted in the Memorandum of Understanding, has approved the

project. Florida Department of Natural Resources (Division of State Parks), National Audubon Society (Kissimmee Prairie Sanctuary), the Department of Defense (Avon Park Bombing Range), St. Johns Water Management District, and other entities have been informed of the release and are aware of the possibility that whooping cranes may be introduced on or move to their project area.

7. Potential Conflicts

Conflicts have resulted when migratory birds have been hunted in areas utilized by whooping cranes. These have resulted from the hunting of sandhill cranes and snow geese (*Chen cerulescens*) which to novice hunters may appear similar to whooping cranes. At least two whooping cranes have been killed when they were mistaken for snow geese, and other whooping cranes have been wounded or shot at in areas where snow geese and sandhill cranes were being hunted. Sandhill cranes and snow geese are not hunted in this area of Florida. No conflicts with migratory bird hunting activities are anticipated.

Traditional hunting in the release area has been for deer (*Odocoileus virginianus*), turkey (*Meleagris gallopavo*), and small game. Conflict with traditional hunting in the release area is not anticipated. Access to some areas where whooping cranes might be particularly vulnerable to human disturbance (i.e., occupied nesting areas, conditioning pens, and critical feeding areas) will be prohibited at times, but such closures will be of short duration and they are not viewed as a source of conflict.

The principal activities on the private property adjacent to the release area are grazing and sod production. Use of these private properties by whooping cranes should not preclude such uses. Coordination with land managers may be necessary to accommodate certain land use activities (i.e., pesticide applications) and use by whooping cranes.

Requests by the public for an opportunity to view whooping cranes, a high profile endangered species, might create conflict on private land when whooping cranes are present. Commission personnel assigned to the Kissimmee Prairie area will be alert to activities of the public attempting to observe whooping cranes on private lands. If such activities begin to infringe on or become a nuisance to the rights of private property owners, the Commission and Service will take action to correct the situation. Commission plans to provide opportunity for the public to view

whooping cranes on public property, away from sensitive areas, should reduce or eliminate this potential source of conflict.

Released whooping cranes might wander or migrate from the release site, moving into other states or other locations within Florida. The Service believes such movements are unlikely to occur outside Florida for the reasons mentioned below, but if they do, the bird(s) will be recaptured and returned to the release site or to captivity. Likewise, any whooping cranes that wander to locations not conducive to the bird's health or safety will also be captured and moved. Studies of whooping cranes and greater sandhill cranes have shown that migration in these cranes is learned rather than innate behavior.

The cross-fostered whooping cranes in Idaho learned the migration route and wintering site preferences from their foster parents. An experiment in Florida tested whether captive-reared cranes, with an innate tendency to migrate, would migrate or remain sedentary when released in association with cranes that migrate. Greater sandhill cranes that nest in the Great Lakes States migrate to Florida for the winter. Eggs removed from this wild population were hatched and reared in captivity. The birds were released in Florida where they associated with wild nonmigratory Florida sandhill cranes and with wintering, migratory, greater sandhill cranes. The released birds noticeably expanded their localized movements during subsequent migration periods but remained year-round in the Florida release area. Captive-reared whooping cranes released in Florida are expected to develop a sedentary population.

As noted previously, in 1992 a male cross-fostered whooping crane and female sandhill crane paired and produced an intercross chick in the Rocky Mountain population. This pairing is believed to be a consequence of improper sexual imprinting which resulted from the cross-fostering process. This is the first known instance of natural pairing of these species despite frequent association of the two in the wild. Whooping cranes being prepared for release in Florida are reared in association with conspecific role models and are expected to be sexually imprinted on their own species. Sandhill cranes and whooping cranes cross-breeding is not expected to occur as a consequence of the reintroductions in Florida.

8. Protection

Recently released whooping cranes will need protection from natural sources of mortality (predators, disease, inadequate foods, etc.) and from human-caused sources of mortality. Natural mortality will be reduced through pre-release conditioning, gentle release, vaccination, predator control, etc. Human-caused mortality will be minimized by placing whooping cranes in an area with low human population density and relatively low development; by working with and educating landowners, land managers, developers, and recreationists to develop means for conducting their existing and planned activities in a manner that is compatible with whooping crane recovery; and by conferring with developers on proposed actions and providing recommendations that will reduce any likely adverse impacts to the cranes.

The whooping crane was designated a Species of Special Concern in Florida by action of the Florida Game and Fresh Water Fish Commission in September, 1992 (Rule 39-27.005 Florida Wildlife Code). With the protection provided by this State law no person may kill, capture, buy, sell, or possess a whooping crane without an appropriate permit.

A biological opinion on the reintroduction, and designation as experimental nonessential, concluded that the action will not jeopardize the species.

9. Public Awareness and Cooperation

An extensive sharing of information about the program and the species, via educational efforts targeted toward the public in the region and nationally, will enhance public awareness of this species and its reintroduction. The public will be encouraged to cooperate with the Service and the Commission in attempts to maintain whooping cranes in the release area.

Summary of Comments and Recommendations

In the September 29, 1992, proposed rule (57 FR 44721) the Service requested comments or recommendations concerning any aspect of the proposal that might contribute to the development of a final decision on the proposed rule. A 30-day comment period was provided. Large local ranch owners, county commissioners, water management districts, Department of Defense, Florida Power and Light Company, Edison Electric Institute, U.S. Corps of Engineers, neighboring states, National Audubon Society, Whooping Crane Conservation Association,

National Wildlife Federation, Central Flyway Technical Committee, Florida Department of Transportation, and others were sent a copy of the rule and invited to provide comments. An announcement of the proposed rule was published in the legal advertisements of the Orlando Sentinel. Twelve hundred newspapers, other media, and environmental interest groups were sent a Service media release announcing publication of the rule and the invitation to comment. The Tampa Tribune and Orlando Sentinel printed articles on the proposed release of whooping cranes. Thirteen letters were received requesting copies of the rule. A total of 24 comment letters and one phone call were received including comments from groups with memberships totaling over 208,000 individuals. One letter opposed the release, 18 letters strongly supported the proposed rule, another letter stated they had no objection to the proposed reintroduction, one oral (telephone) comment expressed concern about wording in the rule, one letter posed questions about future management of the whooping cranes but expressed no opinion about the rule, one letter expressed neither support nor opposition but said if the Service plans to put whooping cranes in the Kissimmee Prairie then airboat traffic must be stopped, and one letter mentioned some historical events about whooping cranes but did not express an opinion about the proposed rule. Three letters supporting the reintroduction expressed concerns about wording of the original rule. Specific issues raised by those commenting and the Service's responses are presented below.

1. General Comments of Support

Eighteen letters of support were received from individuals or groups. Groups responding included The Nature Conservancy, Edison Electric Institute, South Florida Water Management District, the President of the Lake Region Audubon Society speaking for their 800 members, Sierra Club—The Florida Chapter, the Fund For Animals, Inc. with 200,000 members, Wildlife Conservation International, and Levy County Development Authority. Reasons given for the support included it will be beneficial for Florida's wildlife to include the whooping crane once again; the nonmigratory flock would not have to face the hazards of migration each year; the designation as an experimental nonessential population; the necessity of establishing other populations of whooping cranes is evident because of the vulnerability of the only self-sustaining wild

population; the project is in harmony with the mission to preserve and enhance biological diversity through protection of natural communities and native plants and animals; ecotourism provides an opportunity to instill a conservation ethic in visitors who have a close encounter with natural Florida and applauded the plans to provide access and viewing on public property away from sensitive areas; controlled access provides an economically beneficial tourism lure which creates jobs for people; the project appears to be very well-researched and has the potential to benefit whooping cranes and other species; and the establishment of whooping cranes in south-central Florida would be added protection for the species in the event a disease or natural disaster overtook the Texas flock.

Response: The Service agrees with the reasons for supporting the reintroduction and addresses them in this final rule and the final environmental assessment and ESA Section 7 biological opinion. The efforts of individuals in support of the project are appreciated.

2. Opposition To The Reintroduction.

One respondent opposed the introduction. A 9-year-old girl requested that the whooping cranes not be released from captivity, stating "I do not want them to get killed" (sic).

Response: The Service understands the desire to protect the captive whooping cranes from the dangers they will face in the wild. However, for the betterment of the species as a whole, the Service believes it is appropriate to risk some individuals with the hope that chances for survival of the species will be increased by the reintroduction.

3. Intentional Take

A Federal law enforcement agent and the Fund For Animals, Inc. expressed concern about wording in the special rule specifying circumstances under which "taking" of introduced whooping cranes will be allowed. Item 3(h)(2) said "No person may intentionally take this species in the wild * * * except as provided * * *". The respondents believed the word "intentional" would make conviction of violators impossible because those in violation could claim the take was not intentional.

Response: The Service agrees that proving that certain takings were intentional is problematic and has deleted the word "intentional" in 3(h)(2) of the final rule. However, the Service has added a new paragraph (5) which allows incidental take of whooping cranes within the

experimental population area. Incidental take is any take that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. A low level of incidental take may occur in the area, such as may occur as a result of collisions with power lines, being flushed into fences by land use activities of farming, grazing, or recreation. The Service will work with landowners and landusers to ensure that incidental take is minimized. All incidental take mortalities must be reported to the Service and will be investigated.

4. Control of Airboat Traffic

One respondent said if whooping cranes are released in the Kissimmee Prairie, airboat traffic must be stopped because it has driven away the cranes, snipes, ducks, and curlews.

Response: The writer was not specific about where in the Prairie this activity occurred and provided no factual documentation. The Service and Commission will be alert for the problems described by the writer.

5. Change To Essential Experimental Population in the Final Rule

The Fund For Animals, Inc. strongly supported the reintroduction but opposed the nonessential experimental designation. They noted that reintroduction is clearly essential for continued existence of the species. In order for a population to be designated as nonessential experimental, the population must not be "essential to the continued existence of an endangered species * * *" 16 U.S.C. 1539(j)(2)(B). They further referred to a House Conference Report which provides additional interpretation regarding the meaning of nonessential: " * * * the Secretary shall consider whether the loss of the experimental population would be likely to appreciably reduce the likelihood of survival of that species in the wild. If the Secretary determines that it would, the populations will be considered essential to the continued existence of the species." (House Conf. Rep. No. 97-835, 1982 U.S. Code Cong. & Admin. News 2860, 2874-2875). The Notice (proposed rule) clearly recognizes the essential nature of this reintroduction effort to the continued existence of the species in the wild by noting the Aransas population "could be annihilated by catastrophic events such as a Gulf coast hurricane or a contaminants spill * * *".

Response: The principal basis for the nonessential finding is the definition stated in the Endangered Species Act which says " * * * the Secretary shall * * * determine * * * whether or not

such population is essential to the continued existence of an endangered species * * * (16 U.S.C. 1539(j)(2)(B)). With approximately 90 whooping cranes in captivity at four discrete locations and about 150 whooping cranes in the wild at two separate locations, it is evident the Florida population is not essential to the continued existence of whooping cranes as a species. If the definition is further narrowed to consider only the existence of the species in the wild, the Service still concludes that the population is nonessential. The Service believes the Florida population is essential to further recovery of the species and to reach the goal of downlisting, but being essential for recovery is not synonymous with being essential for existence in the wild. The two extant, discrete wild populations contain about 10 and 140 individuals. A catastrophic event is unlikely to simultaneously strike both populations nor is it likely to destroy all individuals in the larger population. With the existing captive flocks, the Service also has the capability to introduce additional birds back into the wild. Therefore, the Service does not believe whooping cranes are in imminent danger of becoming extinct in the wild nor will designation of the Florida population as nonessential be likely to * * * appreciably reduce the likelihood of survival of that species in the wild".

6. Change of Nonessential Designation in the Future

One local rancher said "We have no problem with your experimental release of whooping cranes in Florida * * *". He then expressed a concern that, after the cranes were established, the birds might be designated "endangered" and that would cause problems for landowners. Sierra Club—The Florida Chapter strongly supported the reintroduction but reluctantly accepted the need for the nonessential designation while the project is getting started. The Sierra Club requested that after a period of time the designation should be reconsidered.

Response: The Service proposed the nonessential experimental designation for the reasons stated in this final rule. The designation alleviated local concerns about constraints on land management options of local landowners. The Service believes the whooping cranes will be adequately protected despite the absence of the usual section 7 requirements. Changing the experimental nonessential designation at a later date would most likely alienate some local landowners who now strongly support the

reintroduction and provide research personnel access to their properties. Such an action would be counter-productive. In response to the rancher concerned that the experimental nonessential designation would be dropped when the birds became established, the Service states there are no plans to change the designation. As this nonmigratory population becomes self-sustaining, and other recovery goals for whooping cranes are met, there will be less justification, not more, for viewing the Florida population as essential to the survival of the species.

7. Unilateral Marking of Transmission Lines

Letters from Edison Electric Institute and Florida Power and Light Company expressed concern about the wording in the Mortality section of the proposed rule (page 44726). The statement of concern said "if whooping cranes begin regular use of areas traversed by power line or fences, the Service and Commission will consider placing markers on the obstacles to reduce the probability of collisions." The respondents interpreted this to mean the Service and the Commission would confer with the owners of such obstacles and consider the merits of marking the obstacles. However, the wording could be interpreted to mean the Service and Commission would unilaterally mark the obstacles and such action would not be acceptable to the utilities involved.

Response: The intended meaning of the wording was that the Service and Commission would consult together and evaluate whether the situation warranted marking of obstacles. The Service did not explain the next step, that if marking seemed warranted, the Service would work with the appropriate owner of the obstacle to encourage cooperative marking to protect the cranes. The Service hopes the wording in this final rule better reflects the original intent.

8. Concern About Inability To Reproduce

One woman supported the release and said she hoped these male birds know how to dance—apparently in reference to the absence of pairing and breeding in the cross-fostered whooping cranes of the Rocky Mountain population.

Response: Males in the captive populations do know how to dance and breed naturally. There is no basis for believing that the birds released in Florida will be any less capable of dancing and breeding.

9. Full Section 7 Protection on State and Federal Lands

Sierra Club—The Florida Chapter recommended that full protection under section 7 of the Endangered Species Act should apply to National Forests, other Federal lands, and State lands, just as it does for experimental populations on National Parks and National Wildlife Refuges.

Response: The designation of experimental nonessential provides full protection, under section 7 of The Endangered Species Act, only to National Wildlife Refuges and National Park lands. Extending full protection to State lands and other Federal lands would require an amendment to the Endangered Species Act and is not a prerogative of the Service.

10. Exceptions to the Take Prohibition Should Be More Narrowly Defined

The Fund For Animals, Inc. suggested that exceptions to take prohibitions are open ended and susceptible to virtually any interpretation. Take exceptions should be more narrowly restricted to instances where such removal is clearly related to advancing the conservation of the species. Otherwise, they fear, every time a crane happens to land on the property of a landowner who does not recognize the value of a whooping crane, a request will be made to relocate the crane.

Response: The Service agrees that a situation could arise of a crane landing on private property where it is not welcome, and the Service being requested to remove it. If the existence of a whooping crane on the property may require the individual to modify his activities in order to avoid taking the bird, and if the party were to request its removal, the Service would assess the particular circumstances and determine whether removal would be appropriate. If it appears the crane's existence on the property would truly conflict with the landowner's activities, the Service would work with the affected party in an attempt to reduce, minimize or delay impacts. If necessary, the Service may determine that it is in the best interest of the whooping crane and the reintroduction effort to remove the bird.

The obvious purpose of establishing the experimental population is to further the conservation of the species and advance its recovery to the point where downlisting or eventual delisting is appropriate. All Service decisions pertaining to this project will be directed at accomplishing that goal. The consent, support and cooperation of agencies and persons holding any interest in land which may be affected

by the establishment of the population is a critical factor in accomplishing a successful reintroduction. In determining whether relocation of a whooping crane is appropriate, the nature of the circumstances will be weighed against the potential impacts to the species, and a decision made on a case-by-case basis. The Service believes this flexibility is critical to a successful reintroduction.

This experimental population has broad support in the release area. The Service does not expect that capricious requests to remove whooping cranes will be a significant problem.

11. General Questions About the Proposal

A letter from a Water Management District asked four questions about the proposal. These are listed below and the Service response follows each.

1. Will There Be Changes in the Burning Regime To Benefit Cranes?

Response: The Service and the Commission have developed a management plan identifying prescribed burning and other management practices. The current 2- or 3-year burn cycle is adequate. There may be an expansion of burning into some areas not currently "prescribed burned" but no decision has been made on such specifics.

2. Will There Be an Attempt To Increase Crane Habitat at Three Lakes Wildlife Management Area?

Response: There may be an effort to improve the quality of crane habitat at Three Lakes Wildlife Management Area. There presently are no plans to actively increase the crane habitat acreages. However, the Service does not anticipate that such will occur as a consequence of restoration of original drainage patterns and increased use of the prairie as a water conservation area. These changes are not a consequence of Service management actions.

3. How are Whooping Cranes Expected to Interact With Sandhill Cranes? Will There Be Competition for Food or Nest sites?

Response: The two cranes are members of the same genus. They associate together in the Great Plains and Rocky Mountains in feeding, roosting, and migrating flocks. The whooping crane, being larger, tends to dominate. Their foods are similar in the uplands but whooping cranes are more aquatic in their diet in wetlands. There do not appear to be food shortages so the Service does not anticipate competition for food. The whooping

crane may displace sandhill cranes from some nest sites.

4. How Will the Water Management District be Informed of any Movement of Whooping Cranes into District-owned Lands?

Response: The Water Management District will be notified by phone, and if desirable, by letter.

National Environmental Policy Act

An Environmental Assessment prepared under the authority of the National Environmental Policy Act of 1969 is available to the public at the Service Office identified in the "ADDRESSES" section. It has been determined that this action is not a major Federal action that would significantly affect the quality of the human environment within the meaning of section 102(2)(C) of the National Environmental Policy Act (implemented at 40 CFR parts 1500-1508).

Required Determinations

The Service has determined that this is not a major rule as defined by Executive Order 12291 and that the rule will not have a significant economic effect on a substantial number of small entities as described in the Regulatory Flexibility Act (Pub. L. 96-354). The rule does not contain any information collection or record keeping requirements as defined in the Paperwork Reduction Act of 1980 (Pub. L. 96-511). The Service has also determined that this action would not involve any taking of constitutionally protected property rights that require preparation of a takings implication assessment under Executive Order 12630. The rule does not require a Federalism assessment under Executive Order 12612 because it would not have any significant federalism effects as described in the order.

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Authors

The principal authors of this rule are Dr. James Lewis, Fish and Wildlife Enhancement, U.S. Fish and Wildlife Service, Albuquerque, New Mexico (Phone: 505/766-2914); and Linda Finger, Fish and Wildlife Enhancement, U.S. Fish and Wildlife Service, Jacksonville, Florida (Phone: 904/232-2580). The Service also acknowledges the contribution of Steve Nesbitt, Biological Administrator I, Florida Game and Fresh Water Fish Commission, Gainesville, Florida, to the development of this rule.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and recordkeeping requirements, and Transportation.

Regulation Promulgation

PART 17—[AMENDED]

Accordingly, part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations is hereby amended as set forth below:

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1544; 16 U.S.C. 4201-4245; Pub. L. 99-625, 100 Stat. 3500; unless otherwise noted.

2. Section 17.11(h) is amended by revising the entry for "Crane, whooping" under BIRDS to read as follows:

§ 17.11 Endangered and threatened wildlife.

* * * * *

(h) * * *

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
BIRDS							
Crane, whooping	<i>Grus americana</i>	Canada, U.S.A. (Rocky Mountains east to Carolinas)	Entire, except where listed as an experimental population.	E	1,3	17.95(b)	NA
Do	do	do	U.S.A. (FL)	XN	487	NA	17.84(h)

3. 50 CFR 17.84 is amended by adding a new paragraph (h) as follows:

§ 17.84 Special rules—vertebrates.

(h) Whooping crane (*Grus americana*).

(1) The whooping crane population identified in paragraph (h)(8) of this section is a nonessential experimental population.

(2) No person may take this species in the wild in the experimental population area except when such take is accidental, unavoidable, and not the purpose of the carrying out of an otherwise lawful activity, or as provided in paragraphs (h) (3) and (4) of this section.

(3) Any person with a valid permit issued by the Fish and Wildlife Service (Service) under § 17.32 may take whooping cranes in the wild in the experimental population area.

(4) Any employee or agent of the Service or State wildlife agency who is designated for such purposes, when acting in the course of official duties, may take a whooping crane in the wild

in the experimental population area if such action is necessary to:

(i) Relocate a whooping crane to avoid conflict with human activities;

(ii) Relocate a whooping crane that has moved outside the Kissimmee Prairie when removal is necessary or requested;

(iii) Relocate whooping cranes within the experimental population area to improve survival and recovery prospects;

(iv) Relocate whooping cranes from the experimental population area into captivity;

(v) Aid a sick, injured, or orphaned specimen; or

(vi) Dispose of a dead specimen, or salvage a dead specimen which may be useful for scientific study.

(5) Any taking pursuant to paragraphs (h) (3) and (4) of this section must be immediately reported to the National Whooping Crane Coordinator, U.S. Fish and Wildlife Service, P.O. Box 1306, Albuquerque, New Mexico 87103 (Phone: 505/766-2904), who, in conjunction with his counterpart in the Canadian Wildlife Service, will

determine the disposition of any live or dead specimens.

(6) No person shall possess, sell, deliver, carry, transport, ship, import, or export by any means whatsoever, any such species from the experimental population taken in violation of these regulations or in violation of applicable State fish and wildlife laws or regulations or the Endangered Species Act.

(7) It is unlawful for any person to attempt to commit, solicit another to commit, or cause to be committed, any offense defined in paragraphs (h) (2) through (6) of this section.

(8) The geographic area that the nonessential experimental population may inhabit will include the entire State of Florida. The reintroduction site will be the Kissimmee Prairie portions of Polk, Osceola, Highlands, and Okeechobee counties. Current information indicates that the Kissimmee Prairie is within the historic range of the whooping crane in Florida. There are no other extant populations of whooping cranes that could come into contact with the experimental

population. The only two extant populations occur well west of the Mississippi River. The Aransas/Wood Buffalo National Park population nests in the Northwest Territories and adjacent areas of Alberta, Canada, primarily within the boundaries of the Wood Buffalo National Park, and winters along the Central Texas Gulf of Mexico coast at Aransas National Wildlife Refuge. The other population, which was cross-fostered by wild sandhill cranes but has failed to reproduce, summers in Idaho, western Wyoming and southwestern Montana and winters in New Mexico. Whooping cranes adhere to ancestral breeding areas, migratory routes, and wintering grounds leaving little possibility that individuals from the two extant populations will stray into Florida. Studies of whooping cranes have shown that migration is learned rather than innate behavior. The experimental population released at Kissimmee Prairie is expected to remain within the prairie region of central Florida.

(9) The reintroduced population will be closely monitored during the duration of the projects by the use of radio telemetry. Any animal which is determined to be sick, injured, or otherwise in need of special care would be immediately recaptured by Service or State wildlife personnel or their designated agent and given appropriate care. Such animals will be released back to the wild as soon as possible, unless physical or behavioral problems make it necessary to return them to a captive breeding facility.

(10) The status of the experimental population will be reevaluated periodically to determine future management needs. This review will take into account the reproductive success and movement patterns of the individuals released on the area.

Dated: December 28, 1992.

Richard N. Smith,
Acting Director, Fish and Wildlife Service.
[FR Doc. 93-1373 Filed 1-21-93; 8:45 am]
BILLING CODE 4310-55-M

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 625

[Docket No. 921230-3020]

Summer Flounder Fishery

AGENCY: National Marine Fisheries Service (NMFS), NOAA, Commerce.

ACTION: Final specifications for the 1993 summer flounder fishery.

SUMMARY: NMFS issues this notification of final specifications to implement the 1993 catch quotas for the summer flounder fishery. Regulations governing this fishery require the Secretary of Commerce (Secretary) to publish specifications for the upcoming fishing year. This action is intended to fulfill this requirement and, thereby, prevent overfishing of the summer flounder resource.

EFFECTIVE DATE: January 1, 1993.

ADDRESSES: The environmental impact statement and analyses for Amendment 2 to the Fishery Management Plan for the Summer Flounder Fishery (FMP) are available from John C. Bryson, Executive Director, Mid-Atlantic Fishery Management Council, room 2115, Federal Building, 300 South New Street, Dover, DE 19901.

FOR FURTHER INFORMATION CONTACT: Kathi Rodrigues, 508-281-9324.

SUPPLEMENTARY INFORMATION: Regulations implementing Amendment 2 to the FMP are found at 50 CFR part 625 and were published on December 4, 1992 (57 FR 57358). The Amendment established several conservation and management measures including: A moratorium on new entrants into the commercial fishery, an annual commercial quota, minimum mesh and fish sizes, seasons, bag limits, etc. The process to set the annual commercial quota and, if necessary, adjust some of the fishing restrictions is described in § 625.20. The purpose of this notification is to specify the annual coastwide and individual commercial quotas and other fishing restrictions for the upcoming summer flounder fishing year.

Annual Review Process

The Summer Flounder Monitoring Committee (Committee), made up of representatives from the Atlantic States Marine Fisheries Commission, the Mid-Atlantic Fishery Management Council (Council), the New England Fishery Management Council and NMFS, is required to review, on an annual basis, scientific and other relevant information and recommend catch quotas and other restrictions necessary to result in a fishing mortality rate of 0.53 for the years 1993-1995, and 0.23 in 1996 and thereafter. The schedule of fishing mortality rates is mandated by Amendment 2 to the FMP and is necessary to prevent overfishing of the summer flounder resource.

The scientific and statistical information that are to be reviewed

annually by the Committee are listed in § 625.20(a). The measures that require consideration by the Committee and that may be adjusted are found in § 625.20(b).

The Committee's annual review for the 1993 fishing year resulted in a recommendation to set the 1993 coastwide commercial quota equal to 12.35 million pounds (5.6 million kg) and the recreational target quota at 4.36 million fish estimated to be 8.38 million pounds (3.8 million kg). No further recommendations for adjustments to existing fishing restrictions were made and, therefore, all other measures (e.g., commercial minimum fish size and net minimum mesh size; recreational minimum fish size, possession limit and season) remain as established by Amendment 2. The commercial quota represents the level of allowable coastwide commercial landings necessary to achieve a 0.53 fishing mortality rate in the commercial sector of the fishery. It is calculated based on a simulation of the effects of the existing minimum fish and mesh sizes on landings, utilizing the most currently available estimates of stock size and an assumption that recruitment will be at average levels.

The recreational sector of the fishery is also constrained to the schedule of fishing mortality rates, and for 1993, the rate is also 0.53. The FMP utilizes a different approach to achieve this rate in the recreational sector consisting of a combination of bag, season and size limits rather than state quotas and closures. The "target" level of recreational landings for the 1993 fishing year that will result in a fishing mortality rate of 0.53 is estimated to be 8.38 million pounds (3.8 million kg) or 4.36 million fish.

Based on an analysis of the factors listed in § 625.20(a), the Committee determined that the measures currently in place for the recreational fishery are sufficient to remain within the recreational target quota.

The Committee's recommendation was subsequently forwarded to the Council's Demersal Species Committee, which reviewed the basis for the recommendation and made the identical recommendation to the full Council. After conducting its own review, including consideration of any public comments, the Council voted to adopt this recommendation and forward it to the Regional Director, Northeast Region. This recommendation was approved by the Regional Director for publication in the Federal Register as a notification of proposed specifications. All of the steps above were conducted in accordance